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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,390	09/26/2003	Fangjun Jiang	81076421/201-1498	2389

28395 7590 10/10/2006

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SOUTHFIELD, MI 48075-1238

EXAMINER
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VANAMAN, FRANK BENNETT

ART UNIT	PAPER NUMBER
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3618

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/605,390

Applicant(s)

JIANG ET AL.

Examiner

Frank Vanaman

Art Unit

3618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                        |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/26/03, 2/1/05</u> | 6) <input type="checkbox"/> Other: _____                                                |

### **Election/Restriction**

1. Applicant's election without traverse of Invention I (claims 1-16) in the reply filed on July 20, 2006 is acknowledged.

Claims 17-20 are withdrawn from consideration as being directed to a non-elected invention. An office action in claims 1-16 follows.

### **Claim Rejections - 35 USC § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8, 11, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US PGPub. 2002/0019687, cited by applicant). Suzuki et al. teach a method for operating a hybrid vehicle with an engine (1) and an electric motor (2) and including a plurality of conditions which cause the engine (1) to be stopped or placed into a stopped stand-by condition, including: an engine condition (paragraph 0036, lines 7-9), a condition associated with the control of the system (paragraph 0038) including a vehicle speed and an accelerator position - particularly a condition where the vehicle speed is essentially zero and/or the accelerator is released (note figure 3), a condition associated with the power source (paragraph 0035, lines 15-18) wherein a battery state of charge is greater than a predetermined amount, and when a condition of a climate control system does not require power from the engine (col. 0035, lines 13-15). The reference to Suzuki et al. fails to explicitly teach the generation of flags to annunciate the various conditions associated with the engine shut-off or stand-by condition, however in view of Suzuki teaching that an envisioned controller device may be a general purpose computer (see paragraph 0051, lines 14-19), it would have been obvious to one of ordinary skill in the art at the time of the invention to use flags in a program for the purpose of maintaining an instantaneous

array of all conditions present in the vehicle which would require the change in status or maintenance of an existing status.

As regards the battery state of charge (claim 8), the reference to Suzuki et al. fails to specifically teach that the predetermined amount is a minimum, however in view of the condition associated with a state of charge decreasing to a quantity where charging is deemed necessary, it would have been obvious to one of ordinary skill in the art at the time of the invention to define the amount above which charging is deemed unnecessary as a minimum amount for successful operation of the vehicle.

4. Claims 9, 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Oba et al. (US 6,176,807, cited by applicant). The reference to Suzuki et al. is discussed above and fails to teach an arrangement which further monitors the a motor state or condition and a transmission condition. Oba et al. teach a system for controlling the running and stopping (or stand-by) of an engine, including the steps of determining an operating condition of the motor (S52, figure 11), and additionally a transmission condition (gear ratio, S51) and causing an engine shut-off flag (decision "YES" at S56) based on the motor condition (decision "YES" at S52) and transmission condition (S56). It would have been obvious to one of ordinary skill in the art at the time of the invention to include a motor and transmission condition determination step as suggested by Oba et al. with the vehicle control arrangement of Suzuki et al., for the purpose of preventing the use of the engine in operating regions where the engine efficiency is degraded.

As further regards claims 10 and 13, the combined references fail to explicitly teach the engine stooping or standby as occurring only when all flags indicate an engine stopped condition. Inasmuch as it is understood that a function or device which does not indicate an engine stopped condition would continue to require motive force from the engine, and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to continue to operate the engine so as to ensure that any device which continues to require power from the engine will be provided with the required power.

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### Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kawakatsu (US 4,407,132 and 4,335,429), Kunibe et al. (US 5,653,659), Yamaguchi (US 5,806,617), Chhaya et al. (US 6,484,833) and Mizutani (US 6,676,565) teach vehicle control methods of pertinence.

6. Any inquiry specifically concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 571-272-6701.

Any inquiries of a general nature or relating to the status of this application may be made through either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

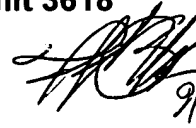
A response to this action should be mailed to:

Mail Stop \_\_\_\_\_  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450,

Or faxed to:

PTO Central Fax: 571-273-8300

**F. VANAMAN**  
**Primary Examiner**  
**Art Unit 3618**



9/27/06